

Are You Ready for the Challenge?
Meeting the Healthier US School Challenge Criteria

Lesson 3: Promoting Vegetables and Fruits in School Meals

Lesson Introduction and Learner Objectives

At the end of this lesson, participants will be able to:

1. Identify vegetable subgroups and compare to the Challenge criteria.
2. Discuss the dry beans and peas vegetable subgroup that meet the Challenge criteria.
3. Discuss the use of fruits in school menus and compare to the HealthierUS School Challenge criteria.
4. Be able to incorporate fruits and vegetables that meet the Challenge criteria into school lunch menus.

Lesson-at-a-Glance

Time	Topic	Task	Materials
5 minutes	Opener	Physical Activity Booster	
5 minutes	Introduction and Overview	Introduce lesson	
Objective 1: Identify vegetable subgroups and compare to the Challenge criteria.			
10 minutes	Vegetable subgroups and comparison to Challenge criteria	<p>Discuss the importance of vegetables in the diet.</p> <p>Discuss the vegetable subgroups.</p> <p>Discuss the HealthierUS School Challenge criteria for vegetables.</p>	<p>Handout 3.1: <i>Vary Your Vegetables for Healthier School Meals</i></p> <p>Handout 3.2: <i>Vegetable Subgroups and HUSSC</i></p> <p>Handout 1.2: <i>HealthierUS School Challenge Criteria</i></p>

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		<p>Show slide on vegetable consumption</p> <p>Conduct Activity 1 using Handout 3.3.</p>	<p>Slide on vegetable consumption</p> <p>Handout 3.3: <i>Matching the Vegetable Subgroups</i></p>
Objective 2: Discuss the dry beans and peas vegetable subgroup and compare to the Challenge criteria.			
15 minutes	<p>Discuss the dry beans and peas vegetable subgroup and compare to Challenge criteria.</p>	<p>Review Handout 3.4: USDA's Fact Sheet: <i>Serve More Dry Beans and Peas for Healthier School Meals</i></p> <p>Show 2 slides on dry pea nutrient comparison.</p> <p>Conduct Activity 2 using Handout 3.5.</p> <p>Conduct Activity 3 using Handout 3.6.</p>	<p>Handout 3.4: USDA's Fact Sheet: <i>Serve More Dry Beans and Peas for Healthier School Meals</i></p> <p>Slides on nutrient comparison of dry split pea and green pea</p> <p>Handout 3.5: <i>Identifying Varieties of Dry Beans and Peas</i> Crossword Puzzle</p> <p>Handout 3.6: <i>Tips for Using Dry Beans & Peas in Your Menus</i></p>
Objective 3: Discuss the use of fruits in school menus and compare to the HealthierUS School Challenge criteria.			
10 minutes	<p>Use of fruits in school menus and compare to Challenge criteria</p>	<p>Discuss the importance of merchandizing fruits in school menus.</p>	<p>Handout 3.7: <i>Jazz Up Your Menu with Fruits for Healthier School Meals</i></p>

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		<p>Show slide of sectionizer.</p> <p>Conduct Activity 4, reviewing the</p> <p>Challenge fruit requirement using Handout 1.2.</p>	<p>Slide of sectionizer</p> <p>Handout 1.2: <i>Criteria for the HealthierUS School Challenge</i></p> <p>Activity 4: Flip Chart & markers</p>
Objective 4: Be able to incorporate fruits and vegetables that meet the Challenge criteria.			
10 minutes	Discussion and activities to promote use of fruits and vegetables in school menus	Review video clip from NFSMI's Cooks for Kids—School Connection <i>Spring Salads</i> (6 minute video clip)	<p>Handout 3.8: NFSMI's Cooks for Kids <i>Spring Salads</i></p> <p>Handout 3.9: NFSMI's Cooks for Kids <i>Fruits Go Back to School</i></p>
5 minutes	Lesson Summary		
Total of 60 minutes		If all objectives and activities are presented this lesson should be 60 minutes.	

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Instructor Background Information

Notes to instructor for vegetable discussion facilitation:

Dry beans and peas can be difficult to categorize since it depends on degree of maturity for classifying them as either a dry bean or pea or as a starchy vegetable. If the beans are immature, such as baby green lima beans and green peas, they should be classified as a starchy vegetable. However, if the beans are mature and have been harvested in the dry state, such as some varieties of peas (black eye peas, field peas, crowder peas, or cowpeas), they can be classified as a dry bean or pea. As beans or peas remain in the fields and allowed to mature, they fix nitrogen and are therefore much better sources of proteins and other nutrients.

Notes to instructor for fruit discussion facilitation: Fresh fruit sectionizers are a piece of equipment, usually plastic, with replaceable stainless steel blades for cutting fruits into wedges. The equipment costs approximately \$300. Many schools use these for cutting apples, oranges, kiwis, etc. Some schools place them on the serving line during meal service and cut each pan of apples, etc. as students come through the line. Cutting close to serving time avoids having fruit turn brown.

Other points to come out of discussion: 1) use of sectionizers, 2) preventing browning, 3) merchandizing, 4) fruit/salad bars, 5) taste-testing, 6) school gardens, and 7) Fresh Fruit and Vegetable Program.

- Students need to be offered fruits frequently, preferably with each school meal and snack. Offering of whole fruits (fresh, frozen, canned) is preferable to offering juices.
- Fruits can be offered in a variety of ways, such as on a fruit and vegetable (salad) bar, on the serving line, in a bagged lunch, and occasionally as a simple baked dessert. Fruits can be offered as an ingredient in salads or as a dessert.
- Be sure and wash all fresh fruits, including melons and oranges, before cutting, preparing, or offering them to students. And remember that because fruits are frequently served raw, it's important to store them or keep them away from raw meat, poultry, and seafood.
- Many fresh fruits (such as apples, pears, bananas, and peaches) turn brown when exposed to air due to enzymatic oxidative browning. Ascorbic acid dips may be used with fresh fruits to eliminate or reduce the browning. Placing a sectionizer on the serving line allows fruit to be cut as needed, thus preventing browning.
- Make your fruit look good by really merchandising the fruit. No one wants to select browned apple slices. Make your fruits easy to eat, especially for your younger elementary students who may have recently lost some of their teeth. Can you imagine a six-year-old with her two front teeth missing trying to bite into a whole apple? How many of you are familiar with fresh fruit sectionizers?

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- In the HUSSC criteria, there are limits on added sugar per Dietary Guidelines for Americans and limits on non-nutritive sweeteners per the Institute of Medicine's (IOM) recommendations for Nutrition Standards for Foods in Schools. IOM reasoning for the limits are: 1) uncertainty about long-term use and low-level exposure effects of non-nutritive sweeteners on health and development in children; 2) non-nutritive sweetened beverages may displace nutrient-rich foods and beverages; 3) use of non-nutritive sweetened foods provide too many choices for small children, choices that should be limited to nutrient-rich foods.
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Lesson Plan

Regrouping Activity

Note to Instructor: To rearrange groups, have each group count off, basing the highest number on the number of tables. For example, if there are 4 tables, have participants count off 1, 2, 3, 4, and then begin again by counting 1, 2, 3, and 4. Designate Table 1, Table 2, Table 3, and Table 4. All of the 1's go to Table 1, all of the 2's go to Table 2, etc.

Physical Activity Booster (5 minutes)

Note to Instructor: If a break is given just before this lesson, you may wish to omit the Physical Activity Booster. The purpose of this Activity is to get people moving, and energize the group. There are many physical activity boosters. Use the activity listed below or develop your own!

Do: Ask participants to participate in the activity

Say: Since this lesson is on fruits and vegetables, reach for those fruits on the tree. (Using alternating hands, reach up in the air, imitating picking fruits from a tree).

Now reach down and dig for those potatoes. (Bend at the waist and use hands to imitate digging for potatoes.)

Discussion of the Importance and Identification of the Vegetable Subgroups and Comparison to the HealthierUS School Challenge Criteria (10 minutes including Activity 1)

Materials Needed

Handout 3.1: *Vary your Vegetables for Healthier School Meals*

Handout 3.2: *Vegetable Subgroups and HUSSC*

Handout 1.2: *Criteria of the HealthierUS School Challenge*

Handout 3.3: *Matching the Vegetable Subgroups*

Say: Handout 3.1, *Vary your Vegetables*, gives a snapshot of the things ANY school nutrition program can do to increase the variety of vegetables in their menus. Handout 3.2 expands the vegetable list in the *Vary Your Vegetables* handout. Let's see how these relate to HUSSC criteria. Look at Handout 1.2, the HealthierUS School Challenge Criteria for the amount and kinds of vegetables that meet the criteria.

Ask: What are the vegetable criteria?

Answer:

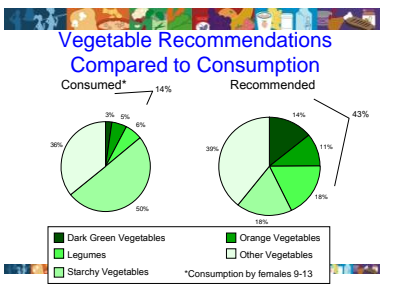
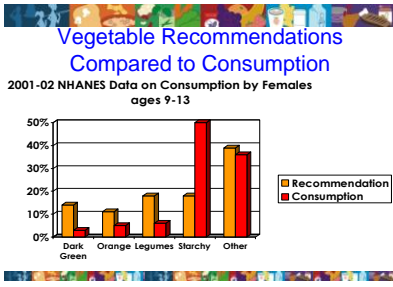
- A different vegetable must be offered every day of the school week.

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- A different vegetable refers to just that—the vegetable the menu item is prepared from is different. Mashed potatoes, curly fries, and potato wedges are not considered different vegetables since they are all from the same type of potatoes. Mashed potatoes, sweet potato fries, and corn would be considered different vegetables since they come from three different vegetable sources and thus provide different nutrients.
- A minimum serving size of ¼ cup is required for all vegetables.
- Of the 5 vegetables:
 - Dark green or orange vegetables must be offered 3 or more days a week; at least 2 must be different.
 - Cooked dry beans or peas (legumes) must be offered at least once per week (includes canned dry beans and peas).

The Challenge criteria are patterned on the *Dietary Guidelines* and *MyPyramid*. You can see from Handout 3.2: *Vegetable Subgroups and HUSSC* that the vegetable group is divided into 5 subgroups because each subgroup provides different nutrients. The subgroups are dark green vegetables, orange vegetables, dry beans and peas, starchy vegetables and other vegetables. Although we need a variety of all vegetables, the *Dietary Guidelines* recommends that we especially eat more vegetables from the dark green, orange, and dry beans and peas subgroups.

 <p>Vegetable Recommendations Compared to Consumption Consumed* 14% Recommended 43%</p> <p>Legend: Dark Green Vegetables, Legumes, Starchy Vegetables, Orange Vegetables, Other Vegetables</p> <p>*Consumption by females 9-13</p>	<p>Slide 21</p> <p>This pie chart gives a side by side comparison of vegetable consumption compared to vegetable recommendations. Notice that when we combine the dark green, orange, and legumes the recommendation of those three subgroups is 43% of the total recommendation for vegetable consumption; only 14% is actually being consumed by this group. What is the highest subgroup consumption percentage-wise? The answer is “Starchy Vegetables”. Let’s look at more details in the next slide.</p>
 <p>Vegetable Recommendations Compared to Consumption 2001-02 NHANES Data on Consumption by Females ages 9-13</p> <p>Legend: Recommendation, Consumption</p>	<p>Slide 22</p> <p>Americans need to increase vegetable consumption somewhat, but mainly increase the variety of vegetables they eat. They are not eating various types of vegetables in the proportions recommended.</p> <p>The lighter color on the left shows MyPyramid recommendations for each subgroup for females age 9-13, and the darker color on the right shows the proportion of all vegetables consumed from each subgroup for this same age/sex group.</p>

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	<p>The increased intake of vegetable that MyPyramid recommends should come from the dark green vegetables, orange vegetables, and legumes categories. As shown on this slide, the highest percentage of consumption is the starchy vegetable subgroup—50% of vegetables consumed are starchy vegetables. What do you think contributes to this high percentage? Answer: French fries.</p> <p>Consumption data is based on NHANES 01-02 data</p>
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The vegetable consumption by children is much lower than the intake recommended by the *Dietary Guidelines*, particularly the dark green vegetables, orange vegetables, and legumes.

Activity 1: Matching Vegetable Subgroups

Say: Take a moment to refresh your memory on the vegetable subgroups. You may wish to refer to Handout 3.2: *Vegetable Subgroups and HUSSC*.

Do: Ask each participant to take the Handout 3.3 *Matching the Vegetable Subgroups* from the table and take a few minutes to match the vegetable with the subgroup. Invite participants to review again the Handout 3.2: *Vegetable Subgroups and HUSSC*.

Give participants 5 minutes to complete Activity 1.

Say: Please stand when you have finished the activity.

Do: Allow participants 5 minutes. As soon as the majority complete the activity (do not wait for all to finish), start calling on individuals for the answers. Continue until all tables have shared their answers.

Discuss the Importance of the Dry Beans and Peas Vegetable Subgroup that meets the Challenge Criteria (15 minutes including Activity 2 and Activity 3)

Materials Needed

Handout 3.4: USDA's Fact Sheet: *Serve More Dry Beans and Peas for Healthier School Meals*

Handout 3.5: *Identifying Varieties of Dry Beans and Peas* Crossword Puzzle

Handout 3.6: *Tips for Using Dry Beans and Peas in Your Menus*

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Say:

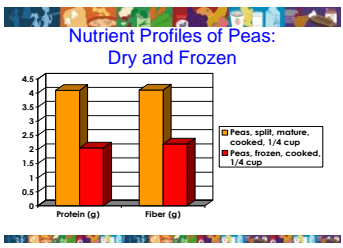
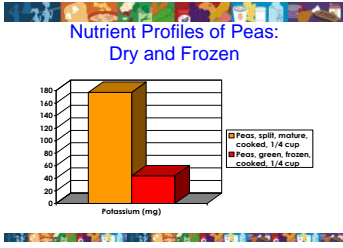
- Use Handout 3.4: *USDA's Serve More Dry Beans and Peas for Healthier School Meals* to complete our next activity.
- Dry beans and peas are the **mature forms** of legumes such as kidney beans, pinto beans, lima beans, peas, and lentils. They are harvested in the field as dry beans or peas so the term is “dry” not “dried”.

Ask: Can someone describe what “mature” forms of legumes might mean?

Answer: One example is green lima beans versus dry white lima beans. Notice on Handout 3.2: *Vegetable Subgroups and HUSSC*, green lima beans (such as baby green limas or green Fordhook limas) are grouped under starchy vegetables but a mature form of the lima bean (the big white dry limas) are grouped under the Dry Bean and Pea vegetable subgroup.

Ask: Do you think there's any difference in the nutrient value of a dry split pea compared to a frozen green pea?

Answer: Yes there is. The dry split pea has more protein, more fiber, and more potassium. The two beans have a very different nutrient profile.

	<p>Slide 23</p> <p>Take a look at the nutrient profile of two types of peas. The orange is mature, dry peas boiled without salt. The darker orange/red color is green frozen peas boiled without salt. Note the difference in protein and fiber.</p>
	<p>Slide 24</p> <p>Now look at the difference in potassium.</p>

- Beans are excellent sources of plant protein, and also provide other nutrients such as iron and zinc. They are similar to meats, poultry, and fish in their contribution of these nutrients. However, dry beans and peas are also excellent sources of dietary fiber and nutrients such as folate that are low in the diets of many Americans. Dry beans are high in potassium, which is required for the normal functioning of nerves and protein. Potassium also helps maintain a healthy blood pressure. A cup of cooked dry beans

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contains more potassium than a banana. And, beans are naturally low in total fat, saturated fat, and are *trans* fat and cholesterol-free.

- Dry beans and peas can be purchased in the dry form or purchased already cooked and canned.

Ask: Can someone give me examples of each?

Answer: Some commonly available dry beans and peas are listed below. These beans are generally available in dry form and canned cooked dry beans.

Black beans (turtle beans)

Black-eyed beans (black-eyed peas; cowpeas)

Cannellini beans (white kidney beans)

Garbanzo beans (chickpeas; ceci beans)

Great Northern beans

Kidney beans

Lentils

Lima beans, mature

Navy beans (pea beans)

Pink beans

Pinto beans

Red beans

Soybeans (available both dry and green; the green soybeans are called Edamame and are not classified as a dry bean for NSLP crediting)

Split peas (green and yellow)

Also generally available are canned prepared bean dishes, such as:

Baked beans in sauce

Baked beans in sauce with pork

Refried beans

Activity 2

Say: Just for fun, see how well you do on the crossword puzzle on your table entitled Handout 3.5: *Identifying Varieties of Dry Beans and Peas* crossword puzzle.

Do: Allow participants only a few minutes to complete this activity; then quiz them on the answers.

Activity 3

Materials Needed:

Handout 3.4: USDA's Fact Sheet: *Serve More Dry Beans and Peas*

Handout 3.6: *Tips for Using Dry Beans and Peas in Your Menus*

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Say:

The HealthierUS School Challenge requires that dry beans and peas be offered at least once each week (1/4 cup minimum). Spend some time with your group in brainstorming ideas of how you could incorporate dry beans and peas in your school menus.

Say: The beauty of the range of experiences at your table is that some of you have years of experience in planning menus while some of you may not have the same amount of experience, but you may be able to offer a fresh, new creative approach. Find Handout 3.4: *USDA's Serve More Dry Beans and Peas for Healthier School Meals* and Handout 3.6: *Tips for Using Dry Beans and Peas in Your Menus*.

Each table team will come up with some ideas of how to use dry peas and beans in:

- Main dishes
- Salad bars or side salads
- Side vegetable dishes
- Soups

Say: This time let's have the Scribe/Recorder be the person in your group with the most years of experience in Child Nutrition Programs. As soon as your table has exhausted its ideas, please stand.

Do: Allow 5 minutes for the activity. As soon as several tables are standing, stop the activity. Have flip chart or transparency ready with a page for main dishes, one for salad bars/side salads, one for vegetable sides, and one for soups.

Start with Main Dishes. Rotate asking each table reporter to provide one idea or tip for incorporating dry beans and peas into a school menu main dish or entrée. As they give you an idea, write it on the flip chart. Go through salad/bars/side salads, etc. until you have a list for each group. If group does not identify some of ideas on the dry bean and peas fact sheet, bring these up at end.

At the end of the activity, remove the pages from the Flip Chart and stick on one of the walls for participants to review at leisure. (An optional way to document and display suggestions is to use a computer and projector and type in ideas when discussed.)

Discussion of Fruits in School Menus and Comparison to HUSSC Criteria (15 minutes with Activity 4)

Materials Needed

Handout 3.7: *USDA's Jazz Up Your Menu with Fruits for Healthier School Meals*

Handout 3.1: *USDA's Vary Your Vegetables for Healthier School Meals*

Handout 1.2: *Criteria for the HealthierUS School Challenge*

Flip Chart and markers (optional)

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Say:

There are two fact sheets on fruits and vegetables recently developed by Team Nutrition, USDA. One is entitled *Jazz Up Your Menu with Fruits for Healthier School Meals* and the other is *Vary Your Vegetables for Healthier School Meals*. You'll want to review both now as they have important tips for you as a school foodservice professional and even messages for students that can be used as nutrition messages on your school menus and/or in school newsletters and parent communication.

Ask: How do you encourage your students to consume fruit?

Do: Solicit responses and record on a flip chart or transparency.

Do: Show slide of sectionizer and discuss how this piece of small equipment can be used to make fresh fruit such as oranges and apples easier for children with missing teeth to consume.

 A photograph of a white, manual vegetable and fruit sectionizer. It has a hopper at the top for fruit or vegetables, a cutting mechanism in the middle, and a collection bowl at the bottom. A red handle is visible on the side. The text "Vegetable and Fruit Sectionizer" is overlaid on the image.	<p>Slide 25</p> <p>A small piece of equipment that may help promote vegetables and fruits to students and also help staff efficiently serve attractive fruit is a sectionizer. As you can see in this picture, there is an arm that is pulled down so that vegetable or fruit is cut into sections. Different size plates are inserted to cut into fourth, sixths, etc. Staff can even use this equipment on the serving line so that the fruit or vegetable is freshly cut as needed. This eliminates the unattractive browning of some fruits and vegetables, and eliminates leftover cut pieces.</p>
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Reviewing the Fruit Requirement of the HealthierUS School Challenge

Activity 4

Materials Needed

Flip Chart and markers

Handout 1.2 *Criteria of the Healthier US School Challenge*

Say: Because of the importance of offering fruit to students, the HealthierUS School Challenge requires a different fruit to be served each day of the school week.

In a moment we will review the menu criteria of the HealthierUS School Challenge to see what emphasis the criteria places on offering students a variety of fruit. Let's look once again at Handout 1.2: *Criteria of the HealthierUS School Challenge*.

Work with others at your table to come up with a list of the Challenge requirements that have to do with fruit. This time, select the person at your table who has the *least amount of*

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experience in the Child Nutrition Programs to be your scribe and reporter. When your table has completed your list, your table can stand to signal completion.

Do: Give participants 5 minutes to respond. Allow 5 minutes or use a timer but stop the Activity when more than 1 table is standing.

Ask the Scribe/Reporter at each table to report one HealthierUS School Challenge fruit requirement their table has identified. Use your flip chart (optional). As each table responds, jot down their answers, being sure to cover all of the key points listed below.

Key Points:

- A different fruit must be offered every day of the school week.
 - By different, look to the source of the menu item. Applesauce, sliced apples, and apple juice are all prepared from apples, so they are not considered to be different for the HUSSC criteria. Applesauce, sliced peaches, and orange juice would be considered 3 different fruits for the HUSSC criteria.
- Fruits can be served fresh, frozen, canned, dried, or juice.
- All servings must be at least ¼ cup.
- No more than one serving of juice per week can be counted as a fruit for the Challenge.
- Dried fruit must have no added sweetener (sugar) or non-nutritive sweetener (artificial sweetener).
- Canned fruit must be packed in juice or light syrup.
- For Bronze and Silver levels of HealthierUS School Challenge, 1 of the fruits offered each week must be fresh; for Gold and Gold Award of Distinction, 2 of the fruits offered each week need to be fresh.
- For competitive foods, fruits and vegetables are exempt from the sugar criteria. For competitive beverages, juices must be 100% full strength and the portion size of fruit and vegetable juices is limited to a maximum of 6 fluid ounces in elementary and middle schools and 8 fluid ounces in high schools.

Ask: Why do you think the HUSSC requires the fresh fruit?

Answer: For increased variety (some fruits are only available fresh, i.e., bananas, kiwi, melons, etc.) and for increased fiber.

Ask: Why do you think there's a limit on the quantity of juice?

Answer: Because of concerns about excess juice consumption leading to excess energy intake, as well as certain other health issues such as displacing other more nutrient-rich foods (IOM recommendation in *Nutrition Standards for Foods in Schools* and the American Academy of Pediatrics).

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After the Activity is completed, tear off the flip chart pages and place them on one of the training room walls for students to review at leisure.

Increasing Use of Fruits and Vegetables in School Menus (10 minutes)

Materials Needed:

Video clips from NFSMI's Cooks for Kids *Spring Salads*

Handout 3.8: NFSMI's Cooks for Kids—School Connection. *Spring Salads*

Handout 3.9: NFSMI's Cooks for Kids—School Connection. *Fruits Go Back to School*

Do: Show video (allow 6 minutes, 6 seconds).

Ask: Does anyone want to share ideas that you can use in your school?

Do: Allow participants about 1 minute to respond.

Ask: Does anyone procure fruits and vegetables from a local farmer? Please discuss any experiences.

- Farm to School ideas and resources (Iowa State has a checklist that may be of value).

Lesson Summary (5 minutes)

Ask the participants to discuss one idea they learned in this lesson and if they could use the idea in their school nutrition operation. Have them record these ideas on the note pages at end of Lesson 3.